

**Remarks/Arguments**

Reconsideration of this application is respectfully requested. It is respectfully submitted that the foregoing claims define the present invention in a way that is not disclosed in or obvious from the cited references.

Initially, the courtesy of a telephone interview between the undersigned, examiner Thomas, and applicant Jonathan Roberts, on December 21, 2005, is respectfully acknowledged. In advance of the interview, undersigned had faxed the examiner a proposed amendment (a copy of which is Exhibit A hereto), and the interview focused primarily on Claims 1 and 15 from the draft amendment. As a result of the interview, applicant revised the amendment, primarily to focus on the subject matter that applicant sought to present in claim 15. Specifically, in the interview, it was the impression of the undersigned and the applicant that concepts of the present invention could probably be effectively presented to the examiner in a claim drawn to the combination of the applicant's cabinet style base and preformed article supported directly on the base in a horizontal orientation. It was the impression of the undersigned and the applicant that the examiner also felt the concept of the invention was more effectively presented in a combination with applicant's cabinet style base, because that would enable applicant to most effectively present the applicant's concept of a preformed, self supporting article that rests directly on a cabinet style base of the type shown in Figure 2A, in a substantially horizontal orientation, and covers the opening formed by the vertical walls of the base, without the need for a plywood backer of the type typically found in built up counter top structures.

Thus, in the foregoing amendment, Claims 1-13 have been canceled without prejudice, Claim 14 has been amended, and new Claims 15-18 have been presented. Claim 15 is directed to the combination of a "cabinet style base" with vertical walls configured with an opening between the vertical walls and the **preformed, self supporting article resting directly on the vertical walls in a substantially horizontal orientation and covering the opening between the vertical walls**, the preformed, self supporting article

comprising a mixture that includes cement, expanded polystyrene and water. Claim 16 defines an aspect of the preformed self supporting article originally found in claim 9. Claim 17 is directed to the preferred formulation ratio of the preformed self supporting article. Claim 18 is directed to the relative dimensions of the preformed self supporting article. Claim 14 recites that one or more types are supported on the preformed, self supporting article. Also, according to the foregoing amendment, paragraph 0019 of the specification has been amended to describe aspects of the cabinet style base upon which the preformed self supporting article rests, in a way that is clearly shown in the figures, and immediately apparent to those in the art from the figures and the original description (in the phone interview, the examiner noted that FIG 2A clearly shows the type of base to which the invention relates, and FIG 2 clearly shows the preformed, self supporting article supported directly on the base, with the preformed self supporting article covering the opening formed by the vertical walls of the base).

Initially, it is believed useful to comment on a fundamental objective of the present invention that distinguishes it from prior tile substratum. Specifically, the present invention provides a tile substratum that is **self supporting**, and thereby eliminates the need for a wood (typically plywood) backer that is normally specified as an integral part of a built up countertop. Specifically, as explained at paragraphs 0003 and 0004 of the specification:

*"Built up counter top substratum is the method commonly utilized in the installation of tile. A common counter or cabinet base is placed upon floor adjacent to wall or partition. A wooden base, substantial and strong, typically a good grade of thick plywood or particleboard, is cut to an outline roughly conforming to the desired outline of the finished counter top. The wood base is positioned upon the cabinet base and having been positioned to correspond with the desired finished counter top is securely and permanently fastened in place by use of suitable hardware or glue or both. Cement board, cut from construction panels or other specifically designed backer board material to closely correspond to the same cut outline as wood base and having been positioned on top of the wood base is securely and permanently affixed there on by use of a combination of specially designed screws and glue. Edge backer strips, having been cut from cement board construction panels or other tile backer material are permanently attached to any edges of the wood base which are intended to be tiled. Back splash support, commonly a piece of wood of such*

*dimensions and proportions as to correspond closely with the dimensions and proportions of the desired finished back splash is positioned adjacent to wall on top of tile bed and is permanently secured in place by use of appropriate means, commonly screws. Back splash backer, cut to appropriate dimensions from construction panels or other suitable backer material is then positioned on the upper most surface of tile bed adjacent to and in close contact with back splash support and is permanently secured there by appropriate means. In the event that a back splash is not desired, which is often the case, back splash support and back splash backer are omitted. Many variations of the built up tile counter method employ less desirable materials such as dry wall, and water resistant dry wall in place of cement backer board.*

*The built up method of tiled counter top construction produces an acceptable tile substratum. However, it is time consuming, and requires a substantial assortment of materials and tooling and a relatively skilled craftsperson to achieve an acceptable finished product.”*

Attached are pages from an ANSI specification for countertops of this type that confirms that the typical and conventional tile substratum for a built up countertop comprises a piece of plywood under a cementitious backer.

In contrast, as explained in the application, the present invention provides a tile substratum that is self supporting, and is designed as a tile substratum that is directly applied to a countertop base, a cabinet base, or a comparable base, so as to avoid requiring a substrate such as a piece of plywood that is typically provided as a backer with a built up countertop. As explained in original paragraph 0019

*“In this application, reference to the tile substratum being “self supporting” means that it has sufficient strength that when the substratum is resting on a cabinet base or other type of counter top base, and is supporting a tile array, the substratum will substantially maintain its shape under normal conditions of substratum use. Thus, the substratum 100 of FIG 1 is designed to maintain its configuration (under its own weight and the weight of tiles it is supporting) when it is resting (generally horizontally) on a cabinet base 104 such as shown in FIG 2A, that has about a 24 inch span 104A. The cabinet base 104 may have stringers (not shown), corner pieces 105, or other hardware to enable the substratum 100 to be secured to the cabinet base, as is well known to those in the art. In this application, reference to a substratum being supported on a “cabinet base” is intended to include a cabinet base that may have stringers, corner pieces or other hardware that enables a substratum to be secured to the cabinet base.”*

In the amendment to paragraph 0019, applicant has noted that it is a “cabinet style base”, that is the type of base upon which the preformed self supporting article (e.g. tile substratum) rests directly, in a horizontal orientation, so as to eliminate the need for a plywood backer that is typical in a built up countertop.

In addition, the preferred form of the self supporting tile substratum of the present invention, is described in paragraph 0020 as follows:

**Composition:** The units of Tilebase are preferably cast, molded or otherwise formed of a mixture of cement/expanded polystyrene (EPS) and water. A mixture of Cement/ expanded polystyrene (EPS) and water is the basic composition of Tilebase (see e.g. FIG 1B). The expanded polystyrene material can be, e.g., a Styrofoam® like material (Dow Chemical) that is ground or otherwise formed into small beads that can be conveniently mixed with cement. The cement/expanded polystyrene material preferably also contains fibrous materials and may or may not contain various other ingredients, materials and compounds, in minor or major proportions, to enhance or minimize particular characteristics of the mixture or the finished casting. One preferred composition of Tilebase, useful for forming substratum articles that are about 48” long, 25” wide and 1.5” thick, would comprise Portland cement/expanded polystyrene, fly ash, water and nylon or polypropylene fibers (In FIG 1C, the cement is schematically illustrated by “C”, the expanded polystyrene beads by “P”, the fibrous material by “F” and the fly ash by “FA”). The composition is preferably formed from the foregoing materials in the following proportions: 14 cu ft of small expanded polystyrene beads, 230 pounds Portland cement, 70 pounds fly ash, 18 gallons water, and fibers as desired. Moreover, in a preferred embodiment, a .25-inch layer of EPS foam 107 can be bonded to the bottom of the composition, to further maintain the integrity of the substratum. When cast or molded, the layer of EPS foam 107 is provided in the bottom of the mold, the composition is mixed, poured into the mold, compressed, and screed, and then allowed to cure. The cured substratum unit is then milled (if needed to finish its surface) before being removed from the mold.

It is respectfully submitted that

- a. none of the cited references discloses or suggests a tile substratum that is supported directly on a cabinet style base such as a countertop base, a cabinet base, or a comparable base, in a horizontal orientation and resting directly on the

vertical walls of the base so as to cover the opening formed by the walls of the base, as defined by claim 15. Reference in Teare to the construction panel serving as a “backerboard” for a facing material such as ceramic tile, does not mean that that the panel is self supporting, supported directly on a base that is a cabinet style base of the type described in claim 15, without the need for the conventional backboard. Rather, the construction panel of Teare would, if anything, logically be part of a built up structure that uses a plywood sheet under the “backerboard”, in the manner described in the ANSI specification. Certainly, there is nothing in Teare that would suggest the “backerboard” is self supporting, or supported directly on the vertical walls of a cabinet style base, in a substantially horizontal orientation, and in a manner that covers the opening formed by the walls, as provided by the structure of claim 15. Gleeson’s disclosure relates to additives for fiber reinforced cement that forms products such as water resistant building sheets, but has no disclosure or suggestion of a tile substratum that is self supporting, or supported directly on a base. Shulman’s composition appears primarily intended as a molded roofing tile, and is not designed as a tile substratum that is self supporting, or supported directly on a base. Thus, claim 15 (and claims 16-18, and 14 which include the recitations of claim 15) are not disclosed in or obvious from the cited references.

- b. none of the cited references discloses or suggests a tile substratum that is self supporting, in the manner intended by the present invention.
- c. none of the cited references discloses or suggests a self supporting tile substratum that has the formulation of claims 17 and 18 and there is no evidence of record that would suggest that such a formulation would have been obvious, especially since none of the cited references is directed at a tile substratum that is self supporting, and is designed to provide a tile substratum that avoids the need for a plywood backer or other substrate to support the tile substratum from a cabinet style base such as a countertop base, a cabinet base, or a comparable base. Thus, claims 17 and 18 are novel over the cited references, and there is no evidence of record that suggest that such a formulation would have been

obvious, especially since none of the cited references is directed at applicant's objective of providing an article such as a tile substratum that is self supporting, and is designed to provide a tile substratum that avoids the need for a plywood or other substrate to support the tile substratum from a cabinet style base such as a countertop base, a cabinet base, or a comparable base. If there is any evidence that would support the proposition that the formulation of claims 17 or 18 would have been obvious (i.e. that one of ordinary skill would have been motivated to provide such a formulation), it is respectfully requested that such evidence be provided.

For the foregoing reasons, it is respectfully submitted that claims 14-18, the only claims remaining in this application, are not disclosed by or obvious from the cited references.

In the event the examiner feels a further telephone discussion would be useful, he is respectfully requested to contact the undersigned at 520-747-0999. For example, if the examiner believes additional language is needed in the claims to clearly limit them to a cabinet style base formed by vertical walls with an opening between the vertical walls, and the preformed self supporting article resting directly on the walls of the base and covering the opening, in a manner that clearly excludes a plywood or other backer on the base covering the opening, applicant would appreciate the examiner's suggestion of such language.

It is respectfully submitted that all remaining claims are allowable. Favorable action is respectfully requested.

Respectfully submitted,

  
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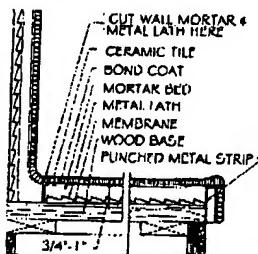
P.02

## COUNTERTOPS

### Wood Base

Cement Mortar

C511-02



#### Recommended Uses:

- on countertops, drainboards, lavatory tops, etc.
- preferred method where sink or lavatory is to be recessed.

#### Requirements:

- set the bottom edge of the countertop trim the proper distance above the finish floor material to allow clearance for dishwashers, compactors, etc.
- cut lath off at corner as shown.
- use extra-duty glazed tile or unglazed tile.

#### Materials:

- mortar bed, lath, and membrane—ANSI A108.1A.
- bond coat—portland cement paste on a mortar bed that is still workable, or dry-set mortar or latex-portland cement mortar on a cured bed.
- grout—ANSI A118.6 or A118.7.

#### Preparation by Other Trades:

- wood base—1" x 6" boards with 1/4" gap between boards or 3/4" exterior-glue plywood with dot and dash saw cuts 6" to 8" on center through the length of the plywood board to prevent warping.
- where overhangs or cantilever counters are used, adequate support must be provided to prevent movement.

#### Preparation by Tile Trade:

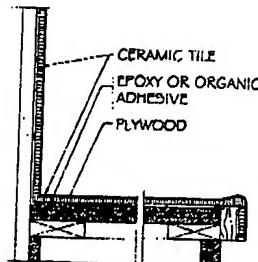
- a punched metal strip attached to the front edge of the cabinet is used in some geographical areas as a screed and support for the countertop trim. It is filled with wall mortar.

#### Installation Specifications:

- tile—ANSI A108.1A, .1B or .1C.
- grout—ANSI A108.10.

Thin-Bed

C512-02



#### Recommended Uses:

- on countertops where thin-set method is desired.

#### Requirements:

- 3/4" exterior-glue plywood base.
- set the bottom edge of the countertop trim the proper distance above the finish floor material to allow clearance for dishwashers, compactors, etc.

#### Materials:

- epoxy mortar—ANSI A118.3.
- organic adhesives—ANSI A136.1 Type I.
- grout—ANSI A118.6 or A118.7.

#### Preparation by Other Trades:

- when tile is set with epoxy, leave 1/4" gap between sheets of plywood. Apply batten to underside of sheets to cover gap.
- where overhangs or cantilever counters are used, adequate support must be provided to prevent movement.

#### Preparation by Tile Trade:

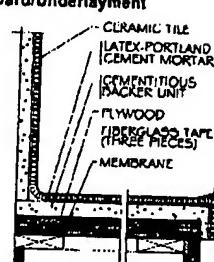
- when tile is set with epoxy, completely fill gap between sheets of plywood with epoxy.
- protect plywood from exposure to water and high humidity.

#### Installation Specifications:

- adhesive—ANSI A108.4.
- epoxy mortar/grout—ANSI A108.6.
- grout—ANSI A108.10.

Cement Backer Board/Underlayment

C513-02



#### Recommended Uses:

- preferred thin-set mortar method where self-rimming sinks and bathtubs are desired on countertops, drainboards, lavatory tops, etc.

#### Requirements:

- install plywood base flat and level.
- set the bottom edge of countertop trim the proper distance above the finish floor material to allow clearance for dishwashers and compactors.
- use extra-duty glazed tile or unglazed tile.

#### Materials:

- 3/4" exterior-glue plywood base.
- cementitious backer units—ANSI A118.9 or ASTM C-1325.
- thin-set cement underlayment—ASTM C-1288.

- nails—1-1/4" galvanized roofing type; preferably screw shank, or other corrosion-resistant fasteners, applied 6" on center.
- mortar—latex-portland cement ANSI A118.4.
- grout—polymer modified tile grout ANSI A118.7 or epoxy ANSI A118.3 (see pages 7 & 11).
- membrane—15 lb. roofing felt, 4-mil polyethylene film, or duplex-type reinforced asphalt paper.

#### Preparation by Other Trades:

- provide support on overhangs or cantilever counters to prevent movement.
- maximum variation in plywood surfaces—1/8" in 10'-0" from the required plane.

#### Preparation by Tile Trade:

- fill 1/8"—3/16" gap between sheets of cementitious backer units with latex-portland cement mortar.
- use a liquid trowel-applied waterproof membrane to seal edge and bottom of plywood overhang at face of counter and all other plywood surfaces and edges that will be exposed to water or moisture.

#### Installation Specifications:

- cementitious backer units—ANSI A108.11.
- tile—ANSI A108.3.
- grout—polymer modified tile grout, ANSI A108.10; epoxy, ANSI A108.6.

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